UNIT ON ORTHOPEDIC NURSING AS AN INTEGRAL PART OF OVERALL PEDIATRIC NURSING COURSE

by

Janet Hance

1949

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RESEARCH PAPER

UNIT ON ORTHOPEDIC NURSING AS AN INTEGRAL PART OF OVERALL PEDIATRIC NURSING COURSE

Submitted by

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CHAPTER I

PRESENTATION OF THE PROBLEM

The Children's Hospital in Cincinnati, Ohio accepts students from fourteen schools of nursing for an affiliation in pediatric nursing. This hospital has a segregated orthopedic head nurse unit which is used systematically as an integral part of the pediatric nursing course. At the present time, no attempt is being made to utilize the orthopedic facilities as an affiliation for orthopedic nursing. In view of the expansion of orthopedic services on a national and state level, it would seem that the facilities at the Children's Hospital might be used advantageously for the preparation of nurses in orthopedic nursing as well as pediatric nursing.

Statement of the Problem

On the basis of the above assumptions, the basic question to be considered is as follows: How might the orthopedic nursing facilities at the Cincinnati Children's Hospital contribute to the preparation of students of nursing in the basic schools of nursing now using the pediatric facilities of this hospital?

Purpose of the Study

In view of the overall problem, the purposes of this study will be as follows:

1. To ascertain whether or not the orthopedic unit offers unique learning opportunities in the care of children which are not found elsewhere in the institution.

2. To ascertain whether or not the orthopedic nursing facilities available in the hospitals from which the students of nursing come are adequate to meet modern nursing needs.

3. If need is discovered from the findings, to make proposals for the uses of orthopedic facilities at the Children's Hospital which might be made in the preparation of these students of nursing.

4. To ascertain how many students of nursing the orthopedic facilities at the Children's Hospital could accommodate educationally.

Scope of the Study

The study is concerned with the Cincinnati Children's Hospital and the fourteen schools of nursing which use its facilities for basic pediatric nursing education.

It attempts, through an analysis of the course outlines and rotation plans in pediatric nursing, to ascertain if there are gaps in essential experiences concerned with the care of the child which could be eliminated through the expansion of the curriculum plan to include a unit on the care of the child with orthopedic conditions.

Through an analysis of the general content of the formal orthopedic class work and experiences in orthopedic nursing

provided elsewhere for these basic students of nursing to discover whether or not there are shortages in orthopedic nursing preparation which could be overcome through utilization of the facilities at Children's Hospital.

Conclusions will be drawn which are reasonable in the light of the findings and proposals will be made.

Limitations of the Study

This study was primarily limited to obtaining a broad general impression of a need from which could be derived a tentative proposal relative to possible utilization of the orthopedic nursing facilities found in the segregated orthopedic unit at the Children's Hospital in the basic preparation of students of professional nursing. It is realized that a more detailed plan is the function of the instructional staff as a whole with the cooperation of representatives from the faculties of the participating schools.

Since the hospital is a children's hospital, consideration will be given only to the contributions which can be made to orthopedic nursing and pediatric nursing through the clinical experience available in the age range from birth through adolescence.

Specificity of Questions

To answer the problem it is apparent that the answers to the following questions will have to be secured:

1. What evidence, if any, is there that the experiences available in the orthopedic unit can provide essential learning opportunities in the preparation of students of nursing for the care of children which cannot be obtained in the pediatric units now being used?

2. What evidence, if any, is there that students of nursing now being served by the Children's Hospital should have supplemental preparation in orthopedic nursing which this institution by virtue of the nature and extent of its orthopedic facilities could supply?

Method of Approach

To answer the first question it was necessary to:

1. Determine the objectives for the pediatric nursing course which pertain to both formal organized classroom instruction and clinical experience as now offered by the Children's Hospital.

2. Ascertain the experiences now included in the pediatric nursing course.

3. Determine the unique learning experiences in the care of the child which are found only in the orthopedic unit.

4. Ascertain which of these unique experiences are essential for sound preparation of all students of professional nursing on the basic level.

5. Consider ways in which the Children's Hospital might assure that all students of nursing affiliating there could

receive the essential learning.

To answer the second question it was necessary to:

1. Determine whether or not the orthopedic nursing experiences, including formal classroom instruction and practice, received elsewhere duplicated the learning opportunities offered at the Cincinnati Children's Hospital.

2. Ascertain, from comparisons with the course work in orthopedic nursing provided elsewhere and that available at the Children's Hospital, the unique learning experiences which could be provided to supplement discovered shortages in orthopedic nursing if a well rounded preparation is to be provided.

Sources and Treatment of Data

At the onset, it was realized that the usage of the orthopedic unit either as preparation for the care of children with orthopedic conditions or as supplemental to adult orthopedic nursing would depend upon the philosophy of education followed and the philosophy relative to good pediatric nursing education. A philosophy is presented in Chapter II to provide background material as a basis for the proposals. It is a synthesis of current literature.

A problem does not exist apart from its setting. Therefore, a brief description of the Children's Hospital and the factors which must be taken into consideration in any educational plan have been presented in Chapter III as an aid to understanding the nature of the problem and the proposals.

Observation and experience of the author in the situation, and conferences and correspondence with the director of nursing at Children's Hospital served as a means for obtaining this essential information.

Written objectives for the total pediatric nursing course were not available. In lieu of these, those presented in A Curriculum Guide for Schools of Nursing for pediatric nursing were substituted. These are presented in Chapter III. The same source and current literature pertaining to orthopedic conditions were used to formulate the general objectives in orthopedic nursing which seemed to apply particularly to the care of children with orthopedic conditions. A synthesis of these appears in Chapter V.

The course outlines in pediatric nursing including experiences considered essential for all students of nursing were examined. These were secured through correspondence and conference with the director of nursing at Children's Hospital. Since these outlines were skeletal only, inferences were drawn relative to gaps in preparation of the students of nursing although it is realized that modifications will doubtless need to be made subsequently when there is opportunity for detailed conferences with all members of the institutional staff and analysis of the pediatric nursing experiences.

The next step was to analyze the experiences available on the orthopedic unit at Children's Hospital and to ascertain the learning experiences which appeared to be unique when

comparisons were made with the experiences now offered as shown in the course outlines. These data are presented in Chapter III. Recognition has been given to the fact that if the orthopedic and pediatric staff actually analyze the nursing experiences available on the pediatric units, the group might find that a few of the experiences classified here as unique to the orthopedic unit might be found to exist in nursing situations on the pediatric unit.

It was then apparent that it would be advisable to determine what orthopedic experiences these students of nursing would receive elsewhere in order to determine whether or not orthopedic nursing in children was actually needed to supplement learning in orthopedic nursing as well as to enrich and expand the pediatric nursing course. This information was secured through questionnaires submitted to the schools of nursing whose students affiliate with the Children's Hospital (see appendix on page 76). The information obtained is summarized and compared with the experiences available in the orthopedic unit and those recommended in A Curriculum Guide for Schools of Nursing and by the Joint Orthopedic Nursing Advisory Service. Inferences are drawn relative to the apparent need for utilization of the orthopedic clinical facilities as part of the pediatric nursing course or as a supplemental affiliation in orthopedic nursing.

Conclusions are drawn which are reasonable in the light of the findings.

The proposals made are tentative to be used as a guide to future cooperative planning by the faculty.

CHAPTER II

PHILOSOPHY

An educational philosophy is essential for the direction and unity of the nursing curriculum.[1] Likewise, a philosophy relative to pediatric nursing education is essential for the direction and unity of the pediatric nursing course.

These philosophies are determined by our philosophy of life which is influenced by the political and social order in which we live. The philosophy of our country is based upon democratic principles. It would, therefore, seem logical that we apply these same principles to education and pediatric nursing education.[2]

A democracy is dependent upon the status of its members. It must, therefore, provide opportunities for their growth and development with continuous improvement of the life of the group as the ultimate aim. A democracy is a twofold process in that it also delegates certain responsibilities to its members.

The child is not only a valuable individual in himself, but is the future citizen upon whom civilization will depend for its continuance and progression towards betterment. The

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[1]Stewart, Isabel, "What Educational Philosophy Shall We Accept for the New Curriculum?" American Journal of Nursing, 35:259-260, March, 1935.

[2]Ibid., p. 259.

development within the student of nursing of understandings, skills, and attitudes relative to the child in both health and disease will aid her in helping the child to attain maximum growth and development essential in enabling him to participate in life as a contributing member of society.

In order to assist the student of nursing in attaining maximum personal and professional growth and development so that she will be able to adjust successfully to the various kinds of nursing situations she is likely to encounter in the practice of professional nursing, it is essential that experiences relative to pediatric nursing be provided for her.[3]

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[3]Committee on Curriculum of the National League of Nursing Education. A Curriculum Guide for Schools of Nursing. P. 567. New York: National League of Nursing Education, 1937.

CHAPTER III

BACKGROUND OF STUDY

This problem exists in the two hundred bed Children's Hospital in Cincinnati, Ohio. Since it is a voluntary hospital, it is a non-profit association supported by fees from patients, income from endowments, voluntary contributions, and the Community Chest.

This hospital is approved by the American Medical Association for the education of physicians specializing in pediatrics and orthopedic surgery, the American College of Surgeons, and the Ohio State Department of Health. The 147 staff physicians are all approved by the pediatric board. There are sixteen residents which is the number approved by the American Medical Association for this institution.[1] These facts give insight relative to the quality of medical care provided for the patients in this hospital.

The functions of the hospital include the medical care of children from infancy through sixteen years of age, the education of physicians specializing in pediatrics and orthopedic surgery, the education of students of nursing who affiliate with this hospital for pediatric experience, the education of student

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[1] Personal correspondence of the author. Letter from Virginia Caldwell, secretary to the Director of Nursing at Children's Hospital in Cincinnati, Ohio, April 21, 1949.

dietitians affiliating for pediatric experience, and the education of graduate nurses in advanced pediatric nursing. Medical research laboratories and the out-patient clinic whose functions are the promotion of health and prevention of disease are located in an adjoining building.

The children served by the Cincinnati Children's Hospital come primarily from the surrounding vicinity, other areas in Ohio, Indiana, and Kentucky.

The pediatric units within this hospital include the following:

1. A 31-bed ward for infants from birth to one year of age regardless of sex or diagnosis. No attempt is made to segregate the males and females. As far as is possible, however, these infants are segregated according to their diagnoses to prevent possible cross infection.

2. A 31-bed ward for children from one to two and one-half years of age regardless of sex or diagnosis. Here again, no attempt is made to segregate the boys from the girls, but they are segregated according to their diagnoses. This ward is referred to as the toddler ward.

3. An 11-bed communicable disease unit which consists of five private rooms and three semi-private with two beds in each. Children ranging in age from birth through sixteen years are admitted to this unit. Diseases which are considered highly communicable are excluded. These include measles, mumps, chickenpox, and scarlet fever.

4. Two 17-bed private room units. Children from birth through sixteen years of age are admitted to these units. There are no stipulations relative to sex or diagnosis.

5. A 31-bed segregated orthopedic unit, a 31-bed segregated medical unit, and a 31-bed segregated surgical unit. Each of these units is subdivided into six wards and two single rooms. The boys and girls are segregated with each occupying three wards and one single room. The children admitted to all three of these units range in age from two and one-half through sixteen years.

The daily average patient census on each head nurse unit during the year 1948, and average daily nursing hours provided per patient during the year 1948, and the accepted standards relative to the daily nursing hours per patient for pediatric nursing are presented in Table 1 on page 14. From an examination of this table, it can be noted that the average daily patient census for the hospital as a whole was 140.7. With the exception of the communicable disease unit, it seems apparent that there is sufficient clinical material available to provide learning opportunities for students of nursing. It is realized that this is merely a quantitative analysis and further study would be necessary to determine the nature and extent of the material available in order to make inferences relative to its educational value for students of nursing. A criteria for determining the quality of nursing care provided patients may be obtained by determining the average number of bedside nursing

TABLE 1

DAILY AVERAGE PATIENT CENSUS ON EACH HEAD NURSE UNIT SHOWING THE AVERAGE DAILY NURSING HOURS PROVIDED PER PATIENT IN 1948 AND THE NATIONAL STANDARDS

Head Nurse Unit	Daily Average Patient Census	Daily Average Nursing Hours Per Patient	Daily Nursing Hours Per Patient for Pediatric Nursing--Nationally Accepted Standards
Communicable Disease	5.0	6.2	4.7
Private (2E)	11.1	3.6	4.4
Private (3E)	11.2	3.4	4.4
Surgical	19.7	2.3	4.3
Medical	20.7	2.4	4.3
Orthopedic	20.7	1.6	4.3
Toddlers	27.5	3.3	---
Infants	24.8	4.3	5.5
Total	140.7		
Median	17.58	3.4	4.5

Source: Compiled from monthly reports prepared by Director of Nursing of Cincinnati Children's Hospital and information in Administrative Cost Analysis for Nursing Service and Nursing Education.[2]

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[2] Pfefferkorn, Blanche and Rovetta, Charles. Administrative Cost Analysis for Nursing Service and Nursing Education. P. 60-62. Chicago, Illinois: American Hospital Association; and New York, New York: National League of Nursing Education, 1940.

hours provided per patient per day. The figures representing the average number of nursing hours provided per patient in each unit at the Children's Hospital during the year 1948 are more meaningful when compared with accepted standards presented in Administrative Cost Analysis for Nursing Service and Nursing Education. It will be noted that the figure presented for the communicable unit is the only one which meets the established accepted quantitative standards. It will be further noted that the figure representative of the orthopedic unit is exceptionally low. Since quantity affects quality and the quantity of nursing care provided the patients on all except one of the units falls below the established standards, it would appear that the quantity of nursing service should be increased if a desirable quality of nursing care is to be provided. The quantity of nursing care provided determines to some extent the freedom the faculty have in making the experiences available educationally effective.

The average number of students of nursing served by the Children's Hospital at any one time during the year 1948 was 47.4 or a total of approximately 203.8 students for the entire year.[3] The average number of staff nurses in the eight head nurse units for the same year was 25.5.[4] From these figures,

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[3]Monthly reports prepared by the Director of Nursing at Cincinnati Children's Hospital.

[4]Ibid.

the percentage of total bedside nursing hours provided the patients by the staff nurses is found to be 35%. This exceeds the minimum requirement of 12% which has been established as essential in safeguarding the nursing care of pediatric patients.[5]

Quantitative standards relative to the ratio of nurses to pediatric patients have been established as follows:[6]

1. 17 patients per head nurse (including assistant head nurses also).

2. 47 patients per day supervisor (including assistant supervisors).

3. 80 patients per night supervisor.

There is one head nurse per unit at the Children's Hospital. There is also one assistant head nurse on each of the medical, surgical, orthopedic, toddler, and infant ward units. On the basis of these facts and the material found in Table 1 on page 14, the number of patients per head nurse on each unit is as follows:

1. Communicable: 5
2. Private (2E): 11.1
3. Private (3E): 11.2
4. Surgical : 9.8

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[5]Pfefferkorn, Blanche and Ronetta, Charles. Op. Cit., p. 68.

[6]Ibid., pp. 73, 78.

5. Medical : 10.3
6. Orthopedic : 10.3
7. Toddler : 13.7
8. Infant : 12.4

There are two day supervisors, one evening and one night supervisor. From an examination of Table 1 on page 14, it can be noted that the average daily patient census for the hospital during the year 1948 was 140.7 which would indicate that the number of patients is 70.3 per day supervisor and 140.7 per evening and night supervisors. The distribution of nursing staff from 7 P.M. to 7 A.M. on each unit is as follows:[7]

1. Communicable: 1 student
2. Private (2E): 1 graduate nurse
3. Private (3E): 1 graduate nurse
4. Surgical : 2 students
5. Medical : 1 student
6. Orthopedic : 1 student
7. Toddler : 2 students
8. Infant : 3 students

The affiliating students of nursing are oriented to the hospital and unit to which they will be assigned first. The orientation of the students on subsequent units includes those factors which are unique to each particular situation. At the

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[7]Monthly reports prepared by the Director of Nursing at Cincinnati Children's Hospital.

present time, the ward teaching programs in effect at this hospital do not include planned ward clinics or conferences for the students. The functional method of assigning patient care is used on all services. The work is distributed according to duties. One person is responsible for medications and treatments; one, diets; and the others, baths.

The total number of hours of pediatric nursing experience per day for the students on day and evening duty is eight. This includes classroom instruction and clinical experience. The students on night duty spend eight hours per day on the wards in addition to classroom instruction. All students are exempted from clinical experience one day per week.

Facilities within the hospital and adjoining research building contributing to the care of the child include the following:

1. Admitting room
2. X-ray department
3. Physiotherapy department
4. Dietary department
5. Operating room including a cast room and dental room
6. Indoor playroom and outdoor play ground
7. Chapel
8. School room
9. Medical laboratories
10. Research laboratories

11. Social service department

12. Out-patient clinic

A full-time school teacher employed by the Cincinnati Department of Education provides an opportunity for children hospitalized for long periods of time to receive an education. Children hospitalized for periods longer than two weeks are entitled to this service but the two week period need not elapse before instruction is begun.

A child guidance instructor who has the degree of Bachelor of Science in child care "assists the nursing staff in the application of child guidance to the daily care activity program. In addition, she plans and supervises the play and activities of the children, works with student nurses, graduate students, and staff nurses, and acts as consultant for children who present special problems. She is in charge of equipment and play materials and plans and supervises projects and special events for the children."[8]

During the year 1948, there were seventeen graduate nurse students enrolled in the advanced pediatric nursing program which extends over a period of ten months. During this period, these graduate students were assigned to the toddler, infant, and medical head nurse units for 24 hours of supervised clinical experience per week which included nursing care,

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[8]Wallace, Mildred and Feinauer, Violet. "Understanding a Sick Child's Behavior," The American Journal of Nursing. 48:517, August 1948.

administrative duties, and practice ward teaching.[9] These students are under the jurisdiction of the nursing education department and are not depended upon to provide nursing service.

The qualifications of the instructional staff are most essential as an aid in determining the quality of education provided for the students of nursing. The members of the instructional staff at the Children's Hospital and the qualifications of each are briefly summarized as follows:

1. The director of nursing education has the degree of Master of Science in nursing education and has for a number of years been associated with the Children's Hospital. She teaches the classes relative to child growth and development.

2. The assistant director of nursing education has the degree of Bachelor of Science in education. She is responsible for the formal classes concerned with the nursing care of the pediatric patient.

3. The child guidance instructor, her qualifications, and participation in the program have been previously given.

4. The public health coordinator has the degree of Bachelor of Science in public health nursing. In addition, she has completed the advanced pediatric nursing course given at the Cincinnati Children's Hospital. She teaches the classes relative to community aspects.

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[9]Personal correspondence of the author. Letter from Virginia Caldwell, secretary to the director of nursing at Cincinnati Children's Hospital, April 21, 1949.

5. One of the clinical instructors has the degree of Bachelor of Science and has had the advanced pediatric nursing course at the Children's Hospital. She is responsible for the ward teaching on the toddler head nurse unit.

6. Another clinical instructor is responsible for the teaching on the infant head nurse unit. She also has had the advanced pediatric nursing course.

From the standpoint of professional education, it would seem that these instructional staff members are well qualified for their various positions.

At the present time, the head nurse on the infant unit is the only one of the head nurse and assistant head nurse group who has had advanced preparation in pediatric nursing.

CHAPTER IV

FINDINGS

Pediatric Nursing Course

The total nursing experience which includes both classroom instruction and clinical practice relative to pediatric nursing is referred to as the pediatric nursing course.

Written objectives for the total pediatric nursing course at the Cincinnati Children's Hospital were not available. Therefore, those which are presented in A Curriculum guide for Schools of Nursing for pediatric nursing are substituted. These are as follows:

1. To gain an understanding and an appreciation of a child as a growing and developing individual whose personality is to be respected.

2. To gain an awareness of the social and economic significance of childhood that will stimulate continued study of children and the conditions that favor their optimal growth and development.

3. To acquire the knowledge, skills, and techniques necessary to give adequate nursing care to sick children.[1]

In order to implement these objectives in a pediatric nursing course, a master list of disease conditions has been

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[1]Committee on Curriculum of the National League of Nursing Education. A Curriculum Guide for Schools of Nursing. P. 470. New York: National League of Nursing Education, 1937.

formulated as a guide in planning the students' clinical experience and assignment of patients. Those conditions to which assignment is considered essential or highly important if available are included here. Those considered essential are represented by one asterisk (*) and those considered highly important are represented by two asterisks (**). Where one or more conditions may be selected, an x is indicated.[2]

A. Conditions of the Psycho-Biological Unit

*Prematurity

B. Conditions Due to Intoxication

*Lead poisoning

C. Infectious Diseases (Communicable)

*Chicken pox

*Diphtheria

*Measles (rubeola)

*Mumps (contagious parotitis)

*Poliomyelitis, acute anterior

**Scarlet fever

**Whooping cough (pertussis)

D. Other Infectious Diseases

*Rheumatic fever

*Septicemia

**Syphilis

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[2] Ibid., pp. 582-587.

**Tuberculosis

*Typhoid fever

E. Conditions of the Integumentary System (Including Subcutaneous Areolar Tissue)

*Burns

*Eczema, infantile

*Impetigo contagiosa

*Intertrigo

*Miliaria

*Omphalitis

*Pediculosis

*Scabies

F. Conditions of the Musculo-Skeletal System

*Arthritis

Congenital anomalies:

*Club foot (talipes)

*Dislocation of hip

*Brachial palsy

*Sprengel's deformity

*Torticollis

**Deformities:

Post-poliomyelitis) x
Rachitic)

**Osteomyelitis

**Posture defects

*Tuberculosis:

Bones)
) x
Joints)

G. Conditions of the Gastro-Intestinal System

**Appendicitis

*Celiac disease

**Gastro-intestinal inflammations:

Colitis)
)
Dysentery:)
)
Amebic)
) x
Bacillary)
)
Enteritis)
)
Typhoid fever)

H. Conditions of the Urinary System

**Cystitis

**Nephritis

**Pyelitis

*Pyelonephritis

Manifestations:

*Enuresis

*Pyuria

I. Conditions of the Respiratory System

*Asthma

*Atelectasis

**Common cold

Acute rhinitis)
) x
Laryngitis)

Laryngo-tracheitis)) x
Pharyngitis)

*Empyema

*Foreign body

Bronchus)) x
Larynx)
Trachea)

**Hypertrophied adenoids

**Hypertrophied tonsils

**Pneumonia

**Pulmonary tuberculosis

*Sinusitis

*Tonsillitis

Manifestations:

*Croup

J. Conditions of the Circulatory System, Blood and Blood-forming Organs, and Lymphatic System

**Anemia:

Aplastic)))) x
Congenital)
Erythroblastic)
Nutritional)

**Heart diseases:

Congenital)) x
Rheumatic)

*Hemorrhagic disease of the newborn

K. Conditions of the Reproductive System

Female:

*Gonorrhea

*Vaginitis

Male:

*Phimosis

L. Conditions of the Nervous System

**Behavior disorders

**Birth injuries:

Cerebral)
Meningeal)
Peripheral nerve) x
(Brachial palsy))

**Brain, cord, nerve and meningeal inflammations:

Encephalitis)
Meningitis) x
Poliomyelitis, acute anterior)

*Convulsive disorders

Manifestations:

*Subdural hematoma

M. Conditions of the Eye and Ear

Eye:

*Conjunctivitis

Ear:

**Mastoiditis

**Otitis media

It is realized that there have been a number of advancements in medical science since this list was formulated which would influence the prevalence of some of these conditions today, and, therefore, the classifications as "essential" or "non-essential." Since a committee of the National League of Nursing Education is now engaged in a revision of the Curriculum Guide for Schools of Nursing, it does not seem advisable to undertake a reclassification for the purposes of this study. A reclassification, however, should be undertaken by the faculty when the revised Curriculum Guide for Schools of Nursing is available since this will be based on a nation-wide study of modern nursing characteristics and, therefore, of nurse education needs.

The length of assignment of the students of nursing in the fourteen schools of nursing now using the pediatric facilities of the Cincinnati Children's Hospital is twelve weeks. The extent to which these students are depended upon to provide nursing service in this institution has previously been established. In an attempt to safeguard the quality of nursing care provided the patients, a complete turnover of student personnel every twelve weeks has been avoided by dividing the fourteen affiliating schools into two groups which are referred to as groups A and B. Group A includes five of the schools while group B includes the other nine. The rotation of these two groups is staggered so that group B rotates eight weeks after group A has rotated; group A, four weeks

TABLE 2

ROTATION PLAN INDICATING THE ASSIGNMENT OF STUDENTS TO THE UNITS WITHIN THE CINCINNATI CHILDREN'S HOSPITAL

Group A

November 1, 1948 through January 23, 1949

SCHOOL	STUDENT	NOV. 1	NOV. 8	NOV. 15	NOV. 22	NOV. 29	DEC. 6	DEC. 13	DEC. 20	DEC. 27	JAN. 3	JAN. 10	JAN. 17
II	1	Infant			Toddler			Commun.			Medical		
V	1	Infant			Toddler			Commun.			Surgical		
V	2	Infant			Toddler			Surgical					
I	1	Infant				Toddler			Ortho.*				
I	2	Infant				Surgical					Toddler		
V	3	Infant						Medical			Toddler		
II	2	Toddler			Commun.			Surgical			Infant		
V	4	Toddler			Commun.			Infant			Medical		
I	3	Toddler			Ortho.*				Infant				
I	4	Toddler				Medical			Infant				
I	5	Toddler				Ortho.*					Infant		
I	6	Toddler						Medical			Surgical		
V	5	Commun.			Surgical			Infant			Toddler		
V	6	Commun.			Surgical			Toddler			Infant		
I	7	Ortho.*			Infant				Medical				
I	8	Ortho.*				Infant			Toddler				
I	9	Medical			Infant			Toddler			Ortho.*		
V	7	Medical				Toddler					Infant		
I	10	Medical						Infant			Toddler		
V	8	Surgical			Infant			Toddler			Commun.		
III	1	Surgical			Medical			Toddler			Commun.		
III	2	Surgical				Infant					Toddler		

Group B

December 27, 1948 through March 20, 1949

SCHOOL	STUDENT	DEC. 27	JAN. 2	JAN. 10	JAN. 17	JAN. 24	JAN. 31	FEB. 7	FEB. 14	FEB. 21	FEB. 28	MAR. 7	MAR. 14
XIII	1	Infant			Toddler			Commun.			Ortho.*		
IX	1	Infant			Toddler			Commun.			Medical		
VIII	1	Infant			Toddler			Ortho.*					
VIII	2	Infant					Toddler			Surgical			
VI	1	Infant						Toddler			Medical		
VI	2	Infant						Surgical			Toddler		
XIV	1	Toddler			Commun.			Ortho.*			Infant		
IX	2	Toddler			Commun.			Infant			Surgical		
XIII	2	Toddler			Ortho.*			Surgical			Infant		
VIII	3	Toddler					Surgical			Infant			
VIII	4	Toddler					Medical			Infant			
VI	3	Toddler						Medical			Infant		
XIII	3	Commun.			Ortho.*			Infant			Toddler		
XIV	2	Commun.			Medical			Infant			Toddler		
XIV	3	Crtho.*			Infant			Toddler			Commun.		
VIII	5	Ortho.*			Surgical			Toddler					
XIII	4	Medical			Infant			Toddler			Commun.		
VIII	6	Medical					Infant			Toddler			
VIII	7	Medical						Infant			Surgical		
XIV	4	Medical					Infant				Toddler		
XIII	5	Surgical			Infant					Medical			
VIII	8	Surgical						Medical			Infant		
VI	4	Surgical					Toddler				Infant		

Source: The Director of Nursing at the Cincinnati Children's Hospital

after group B; and so on in this manner. The two groups to which reference is made throughout this report are the A group which affiliated from November 1, 1948 through January 23, 1949 and the B group which affiliated from December 27, 1949 through March 20, 1949.

The State requirement in Ohio regarding the length of assignment to the pediatric service is twelve weeks. There are no stipulations regarding the distribution of clinical experience during this period. The kind of clinical experience as indicated by units and the length of assignment to each unit which was planned for each student in the A and B groups mentioned above will be found in the outline presented in Table 2 on page 30. Roman numerals are used to represent each affiliating school. Arabic numerals are used to represent the individual students. From an examination of this outline, it will be noted that equal experience relative to the various units found in this institution was not provided for all students. Some students were assigned to three different units during the twelve week period while others were assigned to four. The length of assignment to a unit ranged from three to six weeks. It would seem that the assignment of students to the various units is governed by the age range of the children found on each unit rather than the disease conditions. It can be noted that most of the students received experience on the infant and toddler head nurse units and one of the units on which are found children ranging from two and one-half through sixteen

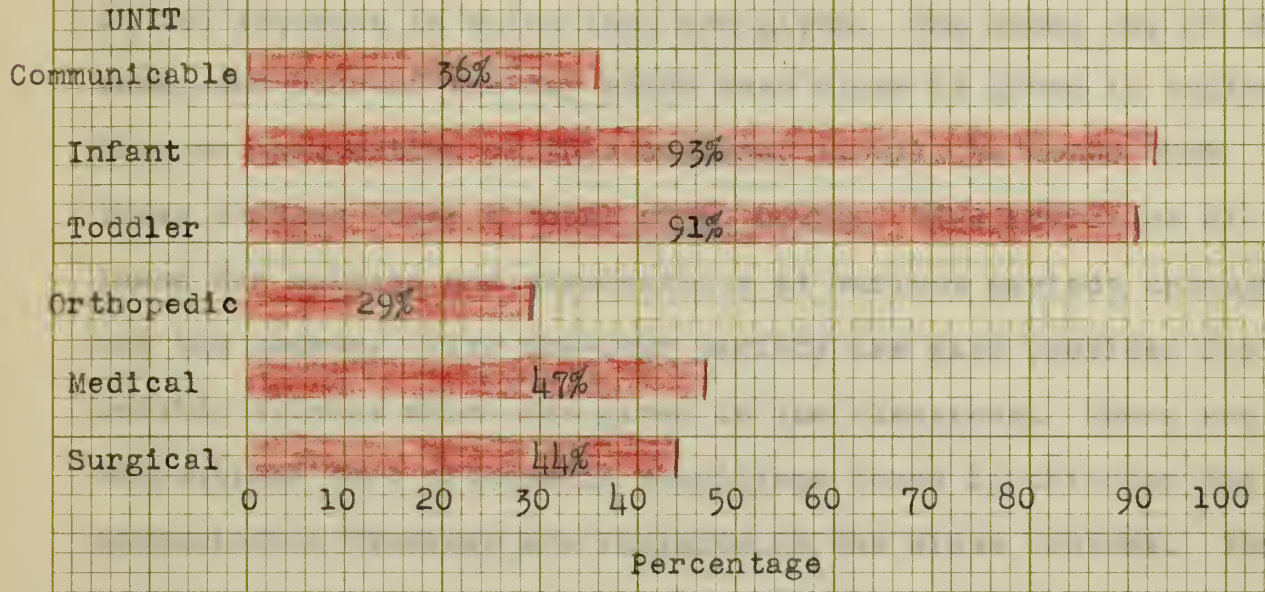
years. None of these students received experience on the private units.

The bar graph in Figure 1 on page 32 indicates the percentage of the total 45 students in both groups A and B who received clinical experience on the different units. An examination of this graph substantiates the statement made above that most of the students received experience on the infant and toddler head nurse units. It will be noted that those receiving experience on any one of the other units represented less than 50% of the total students which would indicate that experience on all these units is not considered essential for all students.

In view of the recommendations made in A Curriculum Guide for Schools of Nursing relative to clinical experience in pediatric nursing, it would seem that students should receive experience on the medical, surgical, and orthopedic head nurse units if they are to be provided an opportunity to care for patients with the conditions suggested. However, it is realized that further detailed study of the nature and extent of clinical material and nursing situations available on these units is essential in determining if those conditions in which the student should receive experience are available. Since measles, mumps, and scarlet fever are excluded from the communicable unit at the Children's Hospital, it would seem that this clinical experience should be eliminated at this institution.

FIGURE 1

PERCENTAGE OF THE TOTAL 45 STUDENTS IN BOTH GROUPS A AND B WHO RECEIVED CLINICAL EXPERIENCE ON THE DIFFERENT UNITS



Source: These percentages were compiled from the data found in Table 2 on page 30.

The minimum State requirement in Ohio concerning formal classroom instruction in pediatric nursing is forty-five hours. A topical outline of the classes which are given in the pediatric nursing course at the Cincinnati Children's Hospital will be found in Table 3 on pages 34, 35 and 36. These classes extend over the twelve-week period. The classes are arranged in the sequence in which they are given. The week, day of the week, and hour of the day which each class is given is indicated. From an examination of this outline, it will be noted that these classes cover a total of 64 hours. Five hours are allowed for quizzes and examinations at various periods throughout the course. Five one-hour periods are also provided for bedside clinics which are given in the classroom. There are no indications that orthopedic conditions found in children and communicable diseases are included in the class content. There is also no mention made to posture and body mechanics as these relate to the pediatric patient.

TABLE 3

TOPICAL OUTLINE OF FORMAL CLASSES GIVEN
DURING PEDIATRIC AFFILIATION

UNIT I Orientation
UNIT II Methods
UNIT III Growth, Development, Care and Nutrition
UNIT IV Diseases

Day	Hour	Topic	Unit
1st Week			
Mon.	7:00-8:00 am	Introduction to course	I
Tues.	3:00-4:00 pm	Administration of medicines and treatments	II
Wed.	4:00-5:00 pm	Administration of parenteral fluids	IV
Thurs.	1:00-2:00 pm	Tour of hospital	I
Fri.	1:00-2:00 pm	Nursing care--administration of parenteral fluids	II
2nd Week			
Mon.	1:00-2:00 pm	Techniques of handling children	II
Tues.	3:00-4:00 pm	Diet service	II
Wed.	4:00-5:00 pm	Formula computing	II
Thurs.	8:00-9:00 am or 1:00-2:00 pm	Restraints and specimens	II
Fri.	3:00-4:00 pm	Introduction to pediatric nursing	III
Sat.	9:30-10:30am	Bedside clinic	IV
3rd Week			
Mon.	1:00-2:00 pm	Introduction to growth and development	III
Tues.	3:00-4:00 pm	Prenatal growth and maturation	III
Wed.	4:00-5:00 pm	Growth and maturation of the newborn	III
Thurs.	8:00-9:00 am or 1:00-2:00 pm	Care of the newborn-premature	III
Fri.	3:00-4:00 pm	Care of the newborn-full term	III
4th Week			
Mon.	1:00-2:00 pm	Community plan for prenatal care	III
Tues.	3:00-4:00 pm	Community plan for care of the premature	III
Wed.	4:00-5:00 pm	Quizz #1	III
Thurs.	8:00-9:00 am or 1:00-2:00 pm	Growth and maturation--4 months, 8 months	III
Fri.	3:00-4:00 pm	Growth and maturation--12, 15, 18 months	III
Sat.	9:30-10:30am	Bedside clinic	IV

Day	Hour	Topic	Unit
5th Week			
Mon.	No class--new group A enters		
Tues.	3:00-4:00 pm	Growth and maturation--2, 3, 4, 5 years	III
Wed.	4:00-5:00 pm	Nutrition in infancy	III
Thurs.	8:00-9:00 am or 1:00-2:00 pm	Young child as a member of the family and community	III
Fri.	3:00-4:00 pm	Guidance in eating--to 5 years	III
6th Week			
Mon.	1:00-2:00 pm	Guidance in control of elimination--to 5 years	III
Tues.	3:00-4:00 pm	Guidance in rest and sleep--to 5 years	III
Wed.	4:00-5:00 pm	Guidance in interests--young child	III
Thurs.	8:00-9:00 am or 1:00-2:00 pm	Guidance in grooming--to 5 years	III
Fri.	3:00-4:00 pm	Quizz #2	III
Sat.	9:30-10:30am	Bedside clinic	IV
7th Week			
Mon.	1:00-2:00 pm	Growth and maturation--8 years, 10 years	III
Tues.	3:00-4:00 pm	Growth and maturation--12 years, 15 years	III
Wed.	4:00-5:00 pm	Nutrition in childhood	III
Thurs.	8:00-9:00 am or 1:00-2:00 pm	Older child and adolescent as member of family and community	III
Fri.	3:00-4:00 pm	Guidance in interests, play of older child	III
8th Week			
Mon.	1:00-2:00 pm	Guidance in eating, rest and sleep--older child	III
Tues.	3:00-4:00 pm	Guidance in grooming--older child	III
Wed.	4:00-5:00 pm	Final examination--Unit III	III
Thurs.	8:00-9:00 am or 1:00-2:00 pm	Methods examination	II
Fri.	3:00-4:00 pm	Diseases of the newborn	IV
Sat.	9:30-10:30am	Bedside clinic	IV

Day	Hour	Topic	Unit
9th Week			
Mon.	1:00-2:00 pm	Disorders of nutrition	IV
Tues.	3:00-4:00 pm	Nursing care in diseases of the newborn	IV
Wed.	4:00-5:00 pm	Diseases of the gastro-intestinal tract	IV
Thurs.	8:00-9:00 am or 1-2 pm	Nursing care in diseases of the gastro-intestinal tract	IV
Fri.	3:00-4:00 pm	Nursing care in diseases of the gastro-intestinal tract(continued)	IV
10th Week			
Mon.	1:00-2:00 pm	Diseases of the respiratory tract	IV
Tues.	3:00-4:00 pm	Nursing care in diseases of the respiratory tract	IV
Wed.	4:00-5:00 pm	Tuberculosis in childhood	IV
Thurs.	8:00-9:00 am or 1-2 pm	Community aspects of tuberculosis	IV
Fri.	3:00-4:00 pm	Juvenile diabetes	IV
Sat.	9:30-10:30am	Bedside clinic	IV
11th Week			
Mon.	1:00-2:00 pm	Nursing care of children with diabetes	IV
Tues.	3:00-4:00 pm	Nursing care in skin diseases	IV
Wed.	4:00-5:00 pm	Congenital syphilis	IV
Thurs.	8:00-9:00 am or 1-2 pm	Social hygiene of childhood	IV
Fri.	3:00-4:00 pm	Diseases of the genito-urinary tract	IV
12th Week			
Mon.	1:00-2:00 pm	Diseases of the heart	IV
Tues.	3:00-4:00 pm	Nursing care in diseases of the genito-urinary tract	IV
Wed.	4:00-5:00 pm	Nursing care in diseases of the heart	IV
Thurs.	8:00-9:00 am or 1-2 pm	Community aspects of rheumatic fever	IV
Fri.	3:00-4:00 pm	Final examination	IV
Total	64 hours		

Source: Director of Nursing at Cincinnati Children's Hospital.

Orthopedic Unit

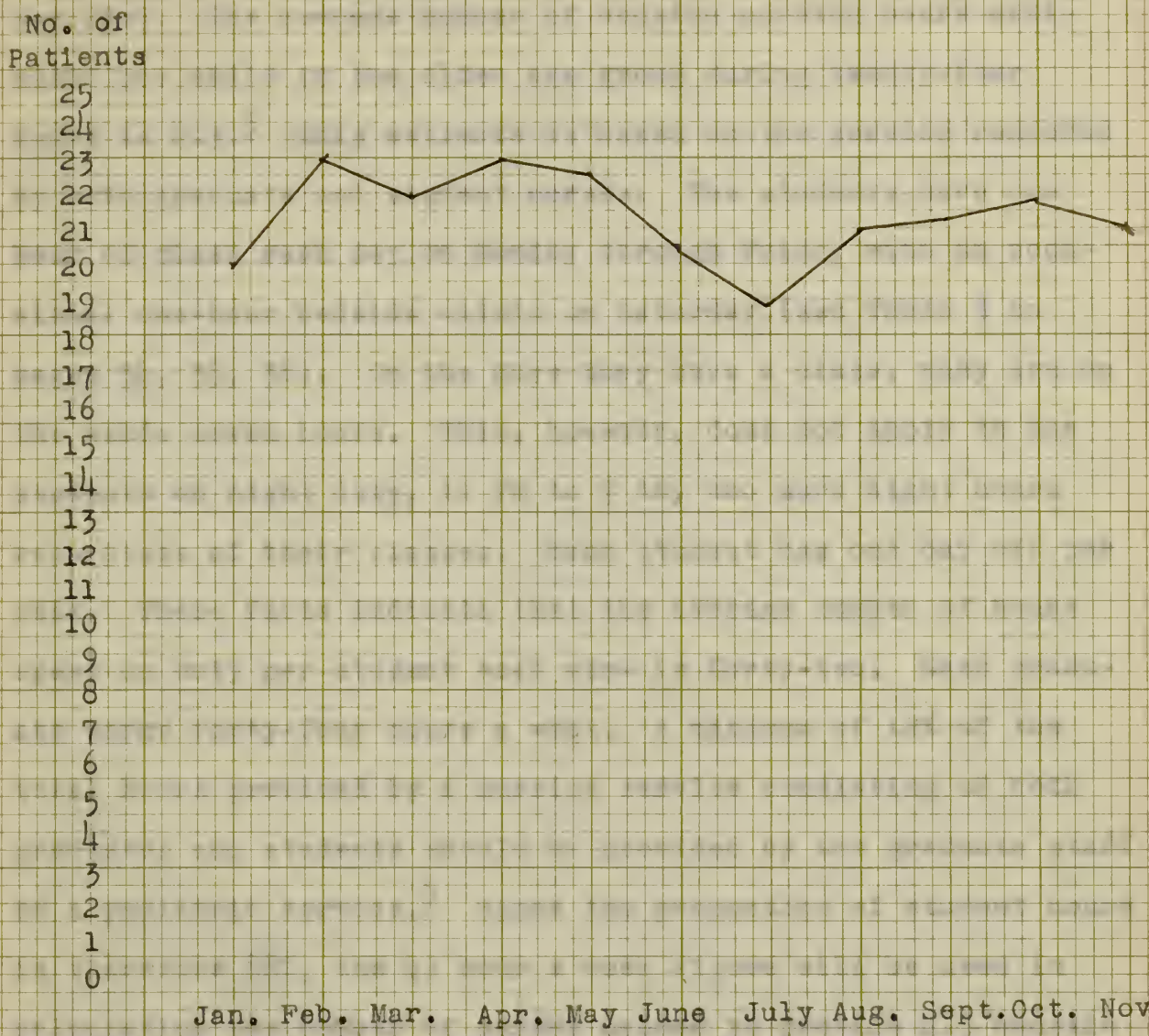
This 31-bed unit is subdivided into six wards and two single rooms. The boys and girls are segregated with each occupying three wards and one single room. The children admitted to this unit range in age from two and one-half years to sixteen years. Infants with orthopedic conditions are admitted to the infant ward; and those between the age of one and two and one-half years are admitted to the toddler ward.

The personnel on the 31-bed segregated orthopedic unit consists of a head nurse, an assistant head nurse, two general staff nurses, affiliating students of nursing, two ward maids, and two ward helpers. The latter two groups do not give direct patient care. Both the head nurse and assistant head nurse came to the hospital in the spring of 1947 immediately following their graduation from a school of nursing with a three-year program. Neither of them have had any advanced preparation in either pediatric or orthopedic nursing. If the students' clinical experience in this unit is to be of value educationally, their learning experiences should be guided and supervised by individuals who have had advanced preparation and experience in both pediatric and orthopedic nursing.

The average daily patient census on the orthopedic unit for each month during the year 1948 is indicated in Figure 2 on page 38. From an examination of this figure, it will be noted that the lowest average daily census of patients on this ward for any month during the year 1948 was 8.4 and the highest

FIGURE 2

AVERAGE DAILY PATIENT CENSUS ON THE ORTHOPEDIC UNIT FOR EACH MONTH DURING THE YEAR 1948



Source: Monthly reports prepared by the Director of Nursing at Cincinnati Children's Hospital.

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23.4. The average daily patient census for the total period was 20.7. The average number of bedside nursing hours estimated per child in the older age group during twenty-four hours is 4.3.[3] This estimate is based on the service rendered by both graduate and student nurses. The students have one hour of class each day on Monday through Friday with an occasional one-hour bedside clinic on Saturday (see Table 3 on pages 34, 35, 36). On the days they have a class, they are on the wards seven hours. This, however, does not apply to the students on night duty, 11 PM to 7 AM, who work eight hours regardless of their classes. Each student has one day off per week. These facts indicate that the average number of hours spent on duty per student each week is forty-two. Each graduate works forty-four hours a week. A minimum of 12% of the total hours provided by a nursing service consisting of both graduates and students should be provided by the graduate staff on a pediatric service.[4] Since the proportion of student hours is therefore 88%, the 42 hour a week figure will be used in calculating the number of nurses needed to provide 4.3 bedside nursing hours per patient in 24 hours.

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[3]Pfefferkorn, Blanche and Rovetta, Charles. Administrative Cost Analysis for Nursing Service and Nursing Education. P. 61. Chicago, Illinois: American Hospital Association; and New York, New York: National League of Nursing Education, 1940.

[4]Ibid., p. 68.

Daily average of patients	x	Average hours nursing care in 24 hours	x	Days in week	=	Total number nursing hours in 1 week
20.7	x	4.3	x	7	=	623.07 or 623

$$\frac{\text{Total hours necessary}}{\text{Number of hours nurse in service}} = \text{Number of nurses needed to provide 4.3 bedisde nursing hours per patient in 24 hours.}^5$$

$$\frac{623}{42} = 14.8 \text{ or } 15 \text{ nurses}$$

An examination of Table 2 on page 30 indicates that six students in group A for the period from November 1, 1948 through January 23, 1949 and seven students in group B for the period from December 27, 1949 through March 20, 1949 were assigned to this unit. Two students from group A and two from group B were on the ward at all times. The length of assignment of each student to this unit varied from three weeks to six weeks. Figure 1 on page 32 indicates that the number of students in these two groups who received this experience represented only 29% of the total number in both groups. Since the students are depended upon to provide nursing service, and, therefore, must be distributed to the various units, it seems that a total of four students on the orthopedic unit is the maximum number which can receive this experience at any one time. In view of this fact, however, sixteen students instead of thirteen could have received this clinical experience during

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[5] No author. "Analyzing Your Clinical Facilities." Nursing Education in Wartime. Bulletin No. 7, p. 3. New York: National League of Nursing Education, 1944.

the periods from November 1, 1948 through January 23, 1949 and December 27, 1948 through March 20, 1949 if the length of assignment had been three weeks for all. This can be noted from an examination of Figure 3 on page 42 which shows a skeletal rotation plan for sixteen students on this unit. In order to provide this experience for 45 students which is the number of students that affiliated during the stated periods and at the same time meet the nursing needs of the patients by maintaining a total number of 15 nurses on the ward at all times, the length of assignment to this ward would have to be increased to four weeks. An examination of the skeletal rotation plan presented in Figure 4 on page 43 shows how this could be accomplished.

The diagnoses of the patients on this unit during the year 1948 were as follows:[6]

A. Congenital anomalies

1. Clubfoot
2. Dislocated hip
3. Arthrogryposis
4. Syndactyly
5. Accessory scaphoid in feet
6. Brachial palsy
7. Osteochondrodystrophy

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[6]Monthly reports of all patients who were discharged from Children's Hospital during the months from January 1948 through December 1948.

FIGURE 3

SKELETAL ROTATION PLAN FOR SIXTEEN STUDENTS ON THE ORTHOPEDIC UNIT

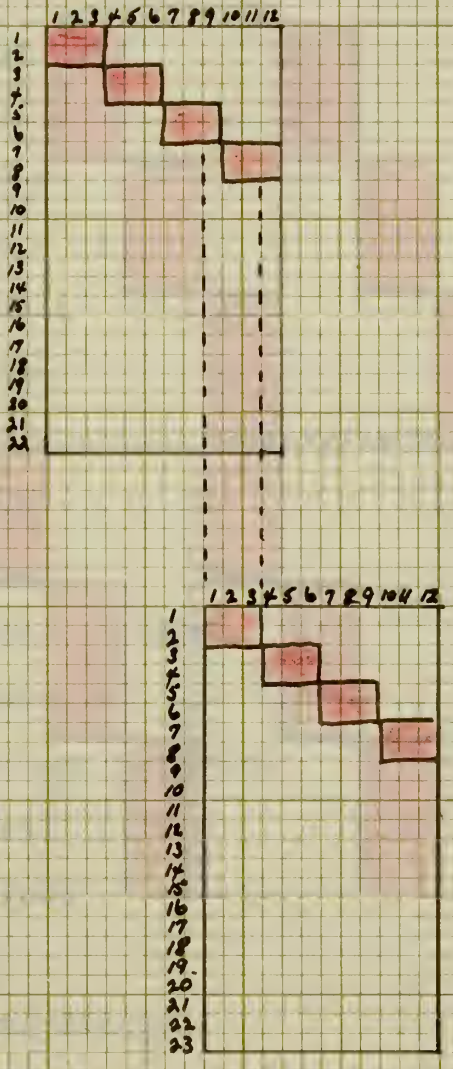

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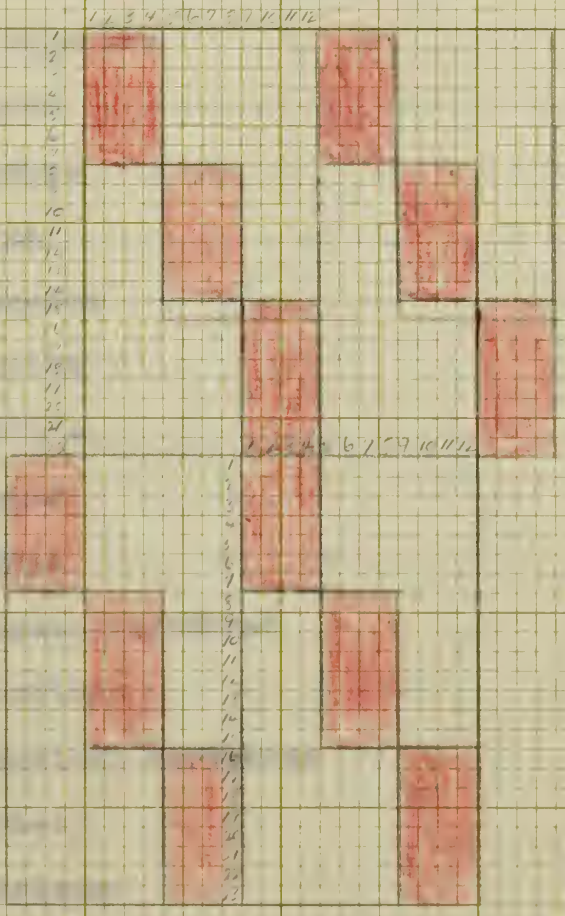
FIGURE 4

SKELETAL ROTATION PLAN FOR 45 STUDENTS ON THE ORTHOPEDIC UNIT



GROUP A

GROUP B

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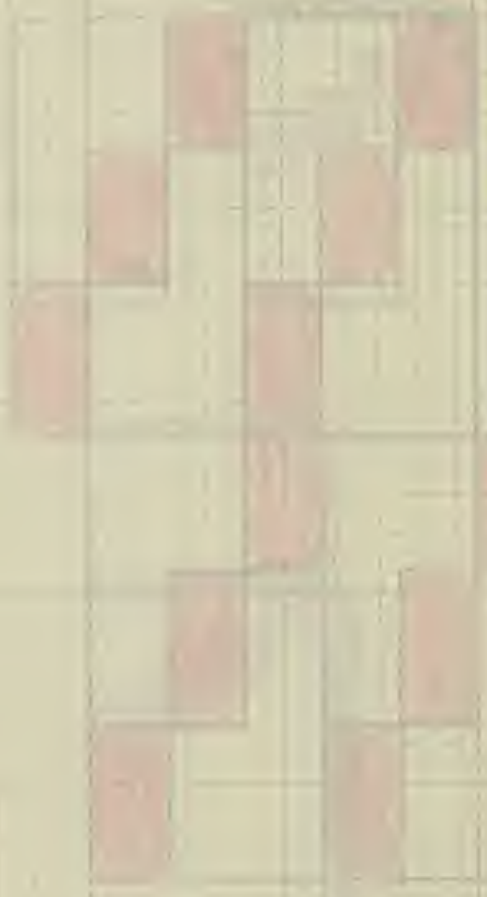

B. Neuromuscular disabilities

1. Post poliomyelitis
2. Spina bifida
3. Pseudohypertrophic progressive muscular dystrophy

C. Traumatic injuries

1. Fractures
   a. Radius
   b. Ulna
   c. Humerus
   d. Colles
   e. Pott's
   f. Femur
   g. Tibia
   h. Dorsal vertebrae
2. Dislocations
   a. Cervical vertebrae
   b. Wrist
3. Amputations
   a. Leg
   b. Index finger
4. Torn meniscus
5. Contusion of coccyx

D. Bone and joint infections

1. Tuberculosis
   a. Hip
   b. Spine

c. Knee

2. Chronic osteomyelitis

a. Femur

b. Tibia

3. Septic joints

a. Acute pyogenic arthritis of knee

b. Acute pyogenic arthritis of hip

c. Chronic pyogenic arthritis of hip

d. Synovitis of hip

4. Still's disease

E. Affections of growing bone

1. Legg-Perthe's disease

2. Slipped femoral epiphysis

3. Osteochondroma

4. Polyostotic fibrous dysplasia

5. Eosinophilic granuloma

6. Hyperparathyroidism

F. Postural defects

1. Scoliosis

2. Low back pain

G. Miscellaneous

1. Sarcoma of shoulder

2. Osteogenic sarcoma of humerus

3. Exostosis ilium

4. Charcot joint

5. Malunion of fractures

a. Tibia b. Elbow

If these were organized in terms of nursing functions as shown in the schedule of classes on pages 34-36, the following characteristics would be found:

1. Conditions of the neuromusculo-skeletal system.

2. Nursing care in conditions of the neuromusculo-skeletal system.

3. Social and psychological aspects relative to children with conditions of the neuromusculo-skeletal system.

Since the outline of the schedule of classes is skeletal only, further analysis of the content may reveal that some of the nursing functions relative to the child with an orthopedic condition are included.

When a comparison of the conditions found in the orthopedic unit at the Children's Hospital is made with those recommended in A Curriculum Guide for Schools of Nursing, it may be noted that there are the following omissions:

1. Congenital anomalies
   a. Sprengel's deformity
   b. Torticollis
2. Rachitic deformities
3. Cerebral palsy

From an examination of the conditions listed under F on page 24 and L on page 27, it can be noted that experience in caring for children with these conditions which are not available on the orthopedic unit is considered highly important but not essential. It will be noted that those conditions in which

experience is essential for sound preparation of all students of professional nursing on the basic level are available on the orthopedic unit. It is realized that further study is necessary in determining more extensively the extent of the orthopedic clinical material available. An analysis of the distribution of orthopedic conditions for each month, the distribution of these according to the ages of the children, their classification as to acute, moderately ill, or convalescent would provide essential information necessary in determining the educational value of experience on this unit.

An analysis of the conditions actually available in the infant and toddler units to which all children under two and one-half years of age are admitted regardless of condition, may reveal that basic experiences may be available for all students. However, at best, it would appear that students receiving experience on these units would fail to derive the following experiences:

1. Measuring for crutches
   Crutch walking
2. Care of patient with a prosthesis
3. Care of patients with back and long leg braces.
4. Care of the orthopedic surgical patient.

Moreover, since the infant and toddler units are non-segregated, the nature and extent of orthopedic experience actually available is not known. Considering the daily average patient census of these units (see Table 1 on page 14) it is doubtful

if orthopedic nursing sufficiently varied in both variety and extent is available for all students. Furthermore, the problems inherent in the care of older children with long-term orthopedic conditions are different with the older age group than they are with toddlers and infants. It would seem desirable, therefore, to provide a definite block of experience on the segregated orthopedic unit for all students.

Affiliating Schools

The name and location of each affiliating school will be found in Table 4 on page 49. It will be noted that these are listed according to the group in which they fall. The Roman numerals preceding the names were used previously in this report when reference was made to the schools. The quota of students which each school is expected to send the Children's Hospital for each twelve week affiliation and the number of students which each school actually sent for the periods previously stated are designated in the columns to the right of the names of the schools. Only three of the schools met their quota for this twelve week period. Five of the schools failed to send any students. In view of the fact that the students are depended upon to provide nursing service, it would seem that it would be most difficult to stabilize the nursing service when the affiliating schools fail to provide the designated quota of students. This is another factor which affects the

TABLE 4

NAME AND LOCATION OF THE FOURTEEN SCHOOLS AFFILIATING AT THE CINCINNATI CHILDREN'S HOSPITAL INCLUDING THE QUOTA OF STUDENTS EXPECTED FROM EACH SCHOOL FOR EACH PERIOD OF AFFILIATION AND THE NUMBER OF STUDENTS ACTUALLY SENT FOR THE PERIODS FROM NOVEMBER 1, 1948 THROUGH MARCH 20, 1948

	Name and Location of Schools of Nursing	Quota	Number sent Nov.1,1948 - Mar.20,1949
Group A			
I.	Christ Hospital School of Nursing Cincinnati, Ohio	25	10
II.	Jane Lamb Memorial Hospital School of Nursing, Clinton, Iowa	4	2
III.	Madison College School of Nursing Madison College, Tennessee	6	2
IV.	Springfield City Hospital School of Nursing Springfield, Ohio	10	
V.	Toledo Hospital School of Nursing Toledo, Ohio	6-11	8
	Total	51-56	22
Group B			
VI.	Bethesda Hospital School of Nursing Cincinnati, Ohio	10	4
VII.	Copley Hospital School of Nursing Aurora, Illinois	6-9	
VIII.	Jewish Hospital School of Nursing Cincinnati, Ohio	12	8
IX.	McMillan Hospital School of Nursing Charleston, West Virginia	2	2
X.	Mt. State Memorial Hospital School of Nursing Charleston, West Virginia	3	
XI.	Mid-State Baptist Hospital School of Nursing Nashville, Tennessee	5	
XII.	Methodist Deaconess Hospital School of Nursing Louisville, Kentucky	3-4	
XIII.	Reid Memorial Hospital School of Nursing Richmond, Indiana	5	5
XIV.	St. Luke's Hospital School of Nursing Davenport, Iowa	4	4
	Total	50-54	23

Source: Director of Nursing at Cincinnati Children's Hospital.

educational plans which the Children's Hospital can make and actually put into effect.

A questionnaire was sent to each director of nursing of the fourteen affiliating schools of nursing. The purpose of this questionnaire was to obtain information which would provide greater insight in regard to the background of the students who affiliate at the Children's Hospital for the pediatric nursing course. The questions were limited in number to seven. The scope of the material included pertains only to the theoretical and clinical orthopedic experience in the basic curricula. This information is important in determining the need for inclusion of a unit on orthopedic nursing which would be most effective in meeting the needs of the students in this area as well as enriching the pediatric nursing experience. Thirteen of the questionnaires were filled out and returned. The responses to the questions are shown in Table 5 on page 51. From an examination of this table, it can be noted that twelve of the schools indicate that formal classroom instruction in orthopedic nursing is included in the basic curricula ranging from ten to twenty-five hours. One school indicates that this instruction is given but does not designate the hours included. Of the thirteen schools offering such a course, all but one indicates that the students have this course preceding the pediatric affiliation. All the students from the thirteen schools receive orthopedic clinical experience; but in three of these, this experience does not always precede the

TABLE 5

INFORMATION RELATIVE TO ORTHOPEDIC EXPERIENCE FROM STUDENTS OF NURSING IN THE BASIC CURRICULUM OF THIRTEEN SCHOOLS OF NURSING USING THE FACILITIES AT THE CINCINNATI CHILDREN'S HOSPITAL

Schools	Hours Instruction in Orthopedics: Dr.'s Hours	Nurses Hours	Total	Does Thooretical Orthopedic Nursing Precede Affiliation	Segregatcd or Non-segregated Ward	Do All Students Receivo Clinical Orthopedic Experience	Length of Assignment to Ward	Does Orthopedic Clinical Experience Precedo Affiliation	Do Students Have an Opportunity to Care for Children With Orthopedic Conditions Other Than at Children's Hospital
II	10	10	20	Yes	Non-segregated	Yes		Yes	Yes
III		10	10	Yes	Non-segregated	Yes		Yes	Yes
IV	9	11	20	Yes	Non-segregated	Yes	8 weeks	Not always	Occasionally
V	10	4	14	Yes	Segregated	Yes	4-8 wks.	Yes	Occasionally
VI	8	14	22	Yes	Non-segregated	Yes	28 wks.	Yes	Occasicnally
VII	10	6	16	Yes	Non-segregated	Yes	6 weeks	Not always	Yes
VIII	8	12	20	Yes	Non-segregated	Yos	4 weeks	Yes	No
IX	12	3	15	Yes	Non-segregated	Yes		Limited	Yes
X	15	10	25	Yes	Non-segregated	Yes	28 wks.	Yes	Occasionally
XI				Yes	Non-segregated	Yes		Yes	Yes
XII	10	10	20	Yes	Non-segregated	Yes	4 weeks	Yes	Occasionally
XIII	14	8	22	Not always	Non-segregated	Yes	16-20 wks.	Not always	No
XIV	8	12	20	Ycs	Non-segregated	Yes	2-4 wks.	Yes	Occasionally

Source: Questionnaires sent to each director of nursing of the fourteen schools of nursing using the facilities at the Cincinnati Children's Hospital.

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affiliation. Only one school has a segregated orthopedic ward. The assignment of the students to this ward ranges from four to eight weeks but their experience with orthopedic children is very limited. The length of assignment of students to non-segregated wards ranges from two to twenty-eight weeks. The students from two of these schools do not receive experience in caring for children with orthopedic conditions and this experience is limited in five other schools.

From this information, the experience the students derive in caring for patients with orthopedic conditions is questionable in the light that all but one of the services in the basic schools of nursing are non-segregated unless it is definitely provided to nurses at the Children's Hospital. It would seem that the experiences available in the orthopedic unit at the Cincinnati Children's Hospital could be used to eliminate the gaps of experience which are evident where the students do not receive experience in caring for children with orthopedic conditions and where this experience is limited. Further analysis of the nature and extent of orthopedic pediatric clinical material available in the fourteen basic schools of nursing would provide a more adequate background for determining the needs of the students in regard to this kind of clinical experience.

An outline of the content of the orthopedic nursing course including the doctors' lectures and nursing classes was also requested of each of the fourteen directors of nursing.

The purpose of this request was to obtain information regarding the nature and extent of the material included in this course in the basic curricula which would aid in determining the gaps which might be supplemented by inclusion of a unit on orthopedic nursing in the pediatric nursing course.

An outline was obtained from only seven schools. The content of material covered in these courses varies considerably. It is felt that some of the material is irrevelant. Therefore, in order to facilitate the tabulation of this content and make it more meaningful, a table was devised which includes subject matter which should be included in the instruction of students to aid them in developing understandings, skills, and attitudes necessary in giving total nursing care to the orthopedic patient.[7] The extent of this material in the orthopedic nursing courses in seven schools is indicated in Table 6 on page 54. It will be noted that the content of material varies considerably from school to school. The major portion of instruction is concerned with the orthopedic conditions rather than the nursing care of patients with these conditions. It would seem that these gaps of instruction relative to nursing care should be supplemented by inclusion of a unit on orthopedic nursing in the pediatric nursing course.

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[7] Calderwood, Carmelita. Orthopedic Nursing. Pp. 22-33. New York: Joint Orthopedic Nursing Advisory Service of the National Organization for Public Health Nursing and the National League of Nursing Education, 1942.

TABLE 6

TOPICAL OUTLINE OF SUBJECT MATTER FOUND IN ORTHOPEDIC NURSING COURSES OFFERED BY SEVEN AFFILIATING SCHOOLS

Orthopedic Conditions

School	Brachial Palsy	Cerebral Palsy	Congenital Clubfoot	Congenital Dislocated Hip	Torticollis	Spina bifida	Polio-myelitis	Osteo-myelitis	Skeletal Tuberculosis	Scoliosis	Still's Disease	Coxa Plana	Slipped Femoral Epiphysis	Fractures
II	X	X	X	X	X		X	X	X	X	X			X
V		X	X	X	X		X	X	X	X	X			X
VI	X	X	X	X	X		X		X		X			X
IX	X	X	X	X	X		X	X	X	X	X	X		X
XI		X	X	X	X		X	X	X	X	X			X
XII			X	X	X			X	X	X	X			
XIII	X	X	X	X	X			X	X		X	X		X

Nursing Care

School	Brachial Palsy	Cerebral Palsy	Congenital Clubfoot	Congenital Dislocated Hip	Torticollis	Spina bifida	Polio-myelitis	Osteo-myolitis	Skeletal Tuberculosis	Scoliosis	Still's Disease	Coxa Plana	Slipped Femoral Epiphysis	Fractures	Cast Patient	Traction Patient	Patient With Brace	Patient On Frame	Patient With Crutches	Orthopedic Surgical Patient	Orthopedic Appliances, Equipment	Posture, Body Mechanics	Psychological And Social Aspects
II									X								X			X			X
V							X				X										X	X	X
VI															X	X	X		X		X	X	
IX								X															
XI																X	X	X			X		
XII	X	X				X		X	X		X										X	X	
XIII															X	X				X		X	

Source: Orthopedic Course Outline received from seven directors of nursing of the affiliating schools.

CHAPTER V

SUMMARY AND CONCLUSIONS

The inclusion of a pediatric nursing course in the basic curriculum of schools of nursing is essential in helping students of nursing to adjust successfully to the various kinds of nursing situations they are likely to encounter in the general practice of nursing. In order to fulfill this purpose, it was found that in the opinion of competent observers the pediatric nursing course must include understandings, skills, and attitudes relative to children with orthopedic conditions. Since there is a segregated orthopedic unit at the Cincinnati Children's Hospital, it was felt that these facilities might be utilized to contribute to the preparation of students of nursing in the basic schools of nursing now using the pediatric facilities of this hospital.

A brief description of the Children's Hospital and the factors which must be considered in any educational plan were presented. It was found that affiliating students of nursing are depended upon to provide nursing service. The plan for staffing provides that 65% of the nursing service will be carried by affiliating students and 35% by general staff nurses. The number of nurses needed to provide 4.5 hours of bedside nursing per patient per day for 140.7 patients is 105.5. The quota of students for the fourteen affiliating schools for

each period of affiliation is 101 to 110; but the average number of students from these schools at any one time during the year 1948 was 47.4. Because the schools whose students affiliate with the Children's Hospital fail to fulfill their agreements concerning the quota of students to enter each affiliating period, the nursing service load of affiliating students is increased. The average bedside nursing hours per patient per day actually provided is 3.4 instead of 4.5 as computed from the figures presented in Administrative Cost Analysis for Nursing Service and Nursing Education.[1] This affects the quality of nursing care which can be provided. It is axiomatic to say that quality nursing can be taught only where quality nursing care is practiced. Moreover, the quantitative factor limits the freedom of the school to adjust its resources for the best educational results. On the orthopedic unit the average daily nursing hours per patient is 1.6 instead of the recommended 4.3. To determine the gravity of this situation in relation to quality, it is evident that a detailed analysis of the distribution of children on this unit in terms of severity of illness should be carried out for a year at least. The amount and quality of educational guidance and supervision given to students from 7 P.M. to 7 A.M. makes it

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[1]Pfefferkorn, Blanche and Rovetta, Charles. Administrative Cost Analysis for Nursing Service and Nursing Education. Pp. 60-62. Chicago, Illinois: American Hospital Association; and New York, New York: National League of Nursing Education, 1940.

questionable whether or not this is an educationally sound procedure. In the course outline, it is noted that more emphasis is placed on the child and his needs as an evolving personality than on disease conditions per se, but that in actual practice the functional method of assignment is used, a device uneconomical for integration of learning. It was further noted that an organized in-service clinical teaching plan on the head nurse units was lacking. It is apparent from the foregoing that, if the Children's Hospital is to offer its rich resources for the best interests of the education of nurses, its plan for staffing should be re-examined.

An analysis of the course outlines in pediatric nursing indicated that there is no instruction given which pertains to the child with an orthopedic condition. There was also no evidence of the integration of the principles of posture and body mechanics into pediatric nursing. From an analysis of the rotation plans, it was apparent that the determining factor governing the students' clinical experience is the age of the patients cared for rather than the diagnoses. Providing for this type of experience is essential, but if the purpose of a pediatric nursing course is to be fulfilled in the light of the objectives and experiences in A Curriculum Guide for Schools of Nursing it is essential that students derive experience in caring for children with the conditions indicated in this

reference which includes specified orthopedic nursing conditions.[2]

An analysis of the orthopedic unit at the Cincinnati Children's Hospital indicated that the experiences relative to orthopedic nursing which are essential for sound preparation of all students of professional nursing on the basic level are available. It was found that there is sufficient material to provide this clinical experience for fifteen students at any one time. However, the present policies governing the distribution and rotation of the students indicated this experience could be provided for only a limited number of students in each of the groups of students assigned to this hospital for the twelve week pediatric nursing course. It was found that the head nurse in the orthopedic unit has not had special experience in this clinical field. In order to safeguard the quality of nursing care provided the patients and provide an experience for students of nursing which is of value educationally, it would seem that this individual should be one who has had special experience in orthopedic and pediatric nursing and special preparation in ward management and teaching.

The findings relative to orthopedic nursing courses in the basic curricula of the affiliating schools of nursing

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[2]Committee on Curriculum of the National League of Nursing Education. A Curriculum Guide for Schools of Nursing. Pp. 470, 582-587. New York: National League of Nursing Education, 1937.

indicated that there are gaps which could be supplemented by including a unit on orthopedic nursing in the pediatric nursing course. All the schools indicated that an orthopedic nursing course was included in the basic curricula. However, it was found that the nature and extent of formal instruction given varies considerably from one school to another. The greatest deficiency was apparent in regard to the instruction concerning the nursing care of patients with orthopedic conditions. Two schools indicated that the students do not receive experience in caring for children with orthopedic conditions and this experience is limited in six others.

This study was primarily limited to obtaining a broad general impression of a need from which could be derived a tentative proposal relative to possible utilization of the orthopedic nursing facilities found in the segregated orthopedic unit in the basic preparation of students of professional nursing. It is realized that a more detailed plan is the function of the instructional staff as a whole with the cooperation of the representatives from the faculties of the participating schools.

CHAPTER VI

RECOMMENDATIONS

On the basis of the findings, it is apparent that adjustments are needed in the present pediatric course offered by Children's Hospital if it is to realize optimum effectiveness in fulfilling the objectives for pediatric nursing stated in A Curriculum Guide for Schools of Nursing.[1] It is therefore recommended that:

1. The administration and the faculty study the ways in which the nursing service can be brought up to desirable quantitative standards to increase the freedom of the school to provide experiences in pediatric nursing primarily on the basis of the students learning needs instead of primarily on the basis of the service needs of the hospital.

It was not within the province of this study to determine the ways in which this should be accomplished, but it is a problem which will need consideration before the orthopedic unit can utilize its resources maximally in the preparation of students affiliating for pediatric nursing. Because the above recommendation has budgetary implications, such a study would probably have to concern itself with an analysis of the costs of providing education to affiliating students to aid in determining the solution on a sound financial basis.

2. A detailed analysis of conditions and types of nursing problems be made on all head nurse units in the hospital for a year to ascertain with a greater degree of accuracy than was within the

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[1]Committee on Curriculum of the National League of Nursing Education. A curriculum Guide for Schools of Nursing. P.470. New York:National League of Nursing Education, 1937.

purpose of this study the specific gaps in orthopedic nursing of children found in the existing plan which could be provided through a systematic assignment to the orthopedic unit and through the inclusion in the formal pediatric course of a unit on the care of children with orthopedic nursing problems.

It is only through such an analysis that the faculty can be assured that the total specific objectives for the preparation of the professional nurse able to meet all first level nursing problems in the care of children can and are being met. It is believed that such an analysis would not only indicate the needs in orthopedic nursing but would serve to reveal how other pediatric nursing experiences could be utilized more effectively in student education.

3. Consideration be given to staffing the orthopedic unit so that its resources may be utilized for sound education of students either for essential preparation in pediatric nursing to include nursing of children with orthopedic conditions or to supplement deficiencies in the preparation of students in orthopedic nursing through extension of orthopedic nursing experience to include adaptations essential with children. To provide an acceptable educational experience it is advisable that:

a. A graduate nurse be employed who has had advanced preparation in orthopedic nursing particularly as it relates to children, who is prepared in teaching principles and methods particularly as these apply to clinical teaching, who is prepared in the social and community aspects of nursing and in child and parent psychology. She should also be prepared in administration of the head nurse unit in order to adjust her teaching to the nursing needs of the unit.

b. General staff nurses be provided to stabilize the nursing service.

c. Sufficient auxilliary personnel be provided to care for the non-nursing activities of the head nurse unit and to care for simple, uncomplicated nursing activities.

d. Consideration be given to systematic assignment of all students so that optimum use will be made of the learning opportunities available. This may involve increasing the number of schools affiliating for pediatric or orthopedic nursing.

From the findings presented in this study, it is believed that the orthopedic head nurse unit has unique learning experiences essential for the preparation of all nurses prepared for meeting pediatric nursing situations in first level positions. Attention has been drawn to the fact that more detailed analysis than was the purpose of this study are needed to determine with a higher degree of accuracy, than was possible with this coarse screening, if some of these unique experiences could be provided elsewhere in the institution. More accurate information than available through the findings in the present study would guide the faculty in determining the time span essential for assignment of all students to the orthopedic head nurse unit if balance and unity of total pediatric nursing experiences is to be derived.

4. The orthopedic clinical instructor be included in the faculty group planning the pediatric course concerning both formal teaching and nursing situation teaching to aid in the integration of posture and body mechanics in all aspects of the pediatric nursing course.

If integration of these aspects of care is provided the time devoted to orthopedic aspects of pediatric nursing can be devoted entirely to those aspects of care which can be learned economically and effectively nowhere but in the orthopedic head nurse unit and the formal classroom unit on orthopedic nursing of children.

5. A plan be instigated for utilizing the orthopedic facilities in the preparation of students now using the pediatric facilities of this hospital.

The first step in planning a unit on orthopedic nursing is to set up the objectives in terms of directional progress goals. The objectives suggested for a unit on orthopedic nursing in the pediatric nursing course are a synthesis of those found in A Curriculum Guide for Schools of Nursing and current literature pertaining to orthopedic conditions.[2] They are as follows:

I. Central Objective

To develop understandings, skills, and attitudes in relation to the child with an orthopedic condition as a basis for rendering skilled and intelligent total nursing care.

II. General Objectives

A. Understandings

1. The nursing principles and procedures underlying the care of the child with an orthopedic condition.
2. The total care of the child with an orthopedic condition in regard to his economic, social, emotional, spiritual, mental, and physical needs particularly as they relate to long term rehabilitation.

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[2] Ibid., p. 470. Calderwood, Carmelita. Orthopedic Nursing. Pp. 22-60. New York: Joint Orthopedic Nursing Advisory Service of the National Organization for Public Health Nursing and the National League of Nursing Education, 1942.

3. The common orthopedic disease processes which occur in children and their therapeutic plan.
4. The effects of an orthopedic condition on the child's normal growth and development.
5. The functions of the nurse as a health teacher in promoting health and preventing deformities.
6. The unique hospital or group policies and routines in relation to the child with an orthopedic condition.
7. The community resources which function in the interest of the child with an orthopedic condition.
8. The source material which is available regarding orthopedic conditions in children and the care of these children.
9. The traits which are essential for successful adjustment in orthopedic pediatric nursing.
10. The changing aspects of orthopedic surgery and their influence regarding the care of the child with an orthopedic condition.

B. Skills

1. Applying and adapting the principles and procedures underlying the nursing care to the individual child with an orthopedic condition.
2. Recognizing, interpreting, and recording symptoms presented by the child with an orthopedic condition and following through with appropriate action.

3. Carrying out nursing procedures with economy of effort, time, and equipment, with safety to all and comfort to the child with an orthopedic condition.
4. Planning, executing, and evaluating the nursing care of the child with an orthopedic condition.
5. Recognizing deviations from the normal indicative of beginning orthopedic conditions in children.
6. Applying and teaching principles of proper posture and body mechanics as they relate to the child with an orthopedic condition.
7. Recognition of what to teach, when to teach, and how to teach the child with an orthopedic condition to care for himself.
8. Assisting the orthopedically handicapped child and his family to make a satisfactory adjustment to his handicap.
9. Cooperating with all persons concerned for the purpose of providing total care for the child with an orthopedic condition.
10. Evaluating one's own growth and development in relation to this unit.

C. Attitudes

1. An interest in orthopedic pediatric nursing.
2. An appreciation that the child with an orthopedic condition is an individual and a member of a social group.

3. The appreciation that an orthopedic handicap is associated with emotional reactions which in turn influence the child's progress and future life.
4. An appreciation of the physical limitations manifested by the child with an orthopedic condition.
5. An appreciation that the orthopedically handicapped child may develop deformities and other problems as a result of the lack of or inefficiency of the nursing care given him.
6. The appreciation that early recognition, and early and continuous treatment of orthopedic conditions in children which involves long range planning is of primary importance.
7. The appreciation that total nursing care must consider social and economic problems that frequently arise in relation to the child with an orthopedic condition, the child's family, and the community.
8. An appreciation that educational and vocational problems and adjustment confront the orthopedically handicapped child.

To accomplish these objectives, a unit on orthopedic nursing is suggested.[3] Twenty-one hours of formal instruction

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[3]Calderwood, Carmelita. Orthopedic Nursing. Pp. 22-60. New York: Joint Orthopedic Nursing Advisory Service of the National Organization for Public Health Nursing and the National League of Nursing Education, 1942.

plus one hour for a final examination should be allotted for this unit, and should be correlated with clinical experience. The teaching personnel should include the following:

A. Nursing staff
    1. Orthopedic nurse instructor
    2. Head nurse
    3. These two positions may be held by one individual.

B. Medical staff
    1. Orthopedic surgeon
    2. Orthopedic resident

C. Contributing instructors
    1. Physical therapist
    2. Child guidance instructor
    3. School teacher
    4. Medical social worker
    5. Public health coordinator
    6. Directors of community agencies

The content of material to be included, and the teacher and student activities which will aid the student in attaining the desired learning outcomes are presented on page 68.

CONTENT

CLASSROOM (11 hours)

1. Orientation
   a. Discussion of objectives for unit
   b. Brief review of functional anatomy
   c. Posture and body mechanics
2. Psychology of handicapped. Social, economic, occupational, educational aspects
3. Congenital anomalies including clubfoot, dislocation of the hip, and torticollis.
4. Cerebral palsy, brachial palsy, and spina bifida
5. Poliomyelitis
6. Scoliosis and foot conditions
7. Skeletal tuberculosis
8. Arthritis, septic joints, and osteomyelitis
9. Developmental and metabolic conditions including rickets, scurvy, bone tumors (benign and malignant), osteogenesis imperfecta, osteochrondritis, and slipped femoral epiphysis
10. Fractures, amputations, and paraplegics
11. Final examination

CLINICAL (11 hours)

1. Care of the orthopedic surgical patient.Measuring for crutches.Crutch walking
2. Nursing care of traction patient
3. Nursing care in clubfoot, dislocation of the hip, and torticollis
4. Nursing care in cerebral palsy, brachial palsy, and spina bifida.Care of patients with braces and splints.
5. Nursing care in poliomyelitis
6. Application of hot packs
7. Care of patient in a respirator
8. Nursing care in scoliosis and foot conditions.Care of patient in Risser jacket.
9. Nursing care in skeletal tuberculosis.Care of patient on a frame.
10. Nursing care in arthritis, septic joints, and osteomyelitis
11. Nursing care in fractures and amputations.Care of patient with a prosthesis

TEACHER ACTIVITY

CLASSROOM

1. Lecture-discussion
2. Use of illustrative material:
   a. Slides
   b. Movies
   c. Pictures
   d. X-ray films
   e. Skeleton
   f. Charts
3. Planning and conducting symposium
4. Preparing and giving examination

CLINICAL

1. Orientation
2. Assignments
   a. Reference readings
   b. Written assignments
   c. Patient assignments
3. Planning and supervising field trips:
   a. Convalescent Home
   b. Condon School for Crippled Children
   c. Brace shop
4. Nursing clinics.Patient presentation
5. Use of illustrative material:
   a. Movies
   b. Slides
   c. Pictures
   d. X-ray films
   e. Skeleton
6. Demonstrations
7. Group conferences
8. Individual conferences
9. Nursing rounds
10. Anecdotal records
11. Explanation, supervision, and evaluation of nursing care studies

STUDENT ACTIVITY

CLASSROOM

1. Note taking
2. Observation of illustrative material.
3. Discussion of symposium
4. Taking examination

CLINICAL

1. Note taking
2. Preparation of written assignments
3. Reference readings
4. Reading patients' charts
5. Studying patients' X-ray films
6. Observation and discussion of field trips
7. Observation of demonstrations and illustrative material
8. Opportunity to return demonstrations.
9. Participation in nursing clinics and group conferences, and nursing rounds
10. Individual conferences and discussion of anecdotal records
11. Observation of doctors' rounds
12. Preparation of nursing care study
13. Supervised nursing care of children with various types of orthopedic conditions and those who are being treated by means of various orthopedic appliances and equipment
14. Guided observation of orthopedic patients in:
    a. Operating room
    b. Cast room
    c. Out-patient orthopedic clinic
    d. Physiotherapy department
    e. Play room (occupational therapy)
    f. School room
15. Home visits with public health coordinator
16. Bulletin board projects

The following three plans are recommended for utilizing the orthopedic facilities at the Cincinnati Children's Hospital in the preparation of students of nursing.

Plan 1

A plan which would be applicable in the present situation would involve no essential changes in the policies relative to the assignment of students of nursing to the orthopedic unit. Table 2 on page 30 indicates that four students may be assigned to this unit for a minimum length of three weeks. Inasmuch as this experience can be provided for only a limited number of students, it is proposed that it be planned for those students who have no other opportunities to care for children with orthopedic conditions and those whose experience in caring for these children is limited. Since it has been found that the theoretical and clinical orthopedic experience these students derive in their home schools of nursing is variable, a pre-test based on the objectives set up for a unit on orthopedic nursing should be given. This test would aid the instructor in determining the students' background of knowledge relative to orthopedic nursing which would guide her in the selection of learning activities. The principles of posture and body mechanics would be integrated into the pediatric nursing course.

Plan 2

Without changing the total length of affiliation, it is proposed that a unit on orthopedic nursing be included in the pediatric nursing course if it is to more nearly approximate the goals considered advisable for basic preparation of students of nursing in pediatrics. Clinical experience in the orthopedic unit should then be provided for all students. A three week assignment to this unit would be in good ratio on the basis of a twelve week affiliation.

Plan 3

If, on further analysis, it is discovered that some of the students of nursing derive the unique experiences relative to the care of the child with an orthopedic condition elsewhere in their basic preparation, it is proposed that orthopedic experience be excluded from the twelve week pediatric affiliation. It is suggested that the orthopedic unit then be used as a separate affiliation of four weeks to supplement the experience of those students who do not derive this experience elsewhere.

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APPENDIX

QUESTIONNAIRE

Check the correct answer or fill in the blank as the case may be.

1. Number of hours of instruction in orthopedic nursing.

   Doctor's lectures_____hours
   Nurse's classes_____hours

2. Do you have a segregated orthopedic ward? Yes___No___

3. Length of assignment of student to ward regardless of whether it is a segregated or non-segregated ward_____.

4. Do all students receive orthopedic clinical experience?
   Yes___No___

5. Does theoretical orthopedic experience precede the affiliation to Children's Hospital? Yes___No___

6. Does clinical experience precede the affiliation?
   Yes___No___

7. Do the students have an opportunity to care for children with orthopedic conditions other than at Children's Hospital?
   Yes___No___

NURSING CARE STUDY OUTLINE

I. Heading

Child's Name	Student's Name
Age	School
Diagnosis	Ward
Date of admission	Date study began
Date of discharge	Date study completed

II. Describe situation

A. Physical development of child including previous diseases and their relationship to present condition.

B. Family medical history which contributes to child's present condition.

C. Social status of family including emotional and economic security. Status of child in family. Attitudes of members of family toward one another and child's condition. Contribution of these factors to child's present condition and future outcome.

III. Describe the clinical condition

A. Explain the anatomical and physiological factors characteristic of this condition. How do these influence the treatment and nursing care essential for this child?

B. Discuss the significance of laboratory findings.

C. Could this condition have been prevented? Indicate nurse's responsibility.

D. How was this condition located? Was this condition located early? What is the significance of early recognition and treatment? How would they have influenced the prognosis in this case? Indicate the nurse's responsibility.

E. Discuss the orthopedic treatment which was provided for this child.

IV. Describe the nursing care of this child including a nursing care plan and essential factors regarding health teaching.

V. Compare this child physically, mentally, emotionally, and socially with the average child of his age. How do these factors influence his adjustment to his condition and hospitalization? Indicate nurse's responsibility.

VI. What play activity should be provided for this child? Indicate the factors which influence the planning of this activity and the nurse's responsibility.

VII. Discuss the significance of educational and vocational rehabilitation and the provisions which are and should be made in regard to these for this particular child.

VIII. What instructions should be given the parents in regard to the child's care when discharged? Indicate teaching which would aid the parents in adjusting to child's condition.

IX. Discuss the importance of and provisions made for orthopedic follow-up care. Indicate community or other resources which are being used or could be used to provide adequate and continuous care for this child.

EVALUATION OF ABILITIES AND PERSONALITY TRAITS

Name
School

Head Nurse
Ward
Date

Date	Illustrations of Typical Behavior

Summary:

_____
Signature--Head Nurse

Student Comments:

_____
Signature--Student

RECORD OF WARD CLINICS

Name

School

Date of Affiliation

Date	Time	Place	Clinic	Participants

TEST

I. Circle the T if the statement is true or the F if the statement is false.

T F 1. The patient's mental health deserves as much consideration as his physical health.

T F 2. The nurse should never ignore a patient's complaints.

T F 3. A patient with bone impairment should be given a high calcium diet to facilitate bone growth.

T F 4. When the patient returns to his bed with a wet cast, he should be placed on a firm, hard mattress.

T F 5. Boards should be placed under the mattress of all patients who have had a body type cast applied.

T F 6. Plaster of Paris enlarges as it dries.

T F 7. There is little danger of a cast becoming cracked after it has thoroughly dried.

T F 8. After the removal of a cast, the skin should be thoroughly scrubbed with soap and water.

T F 9. The purpose of the bar which is usually placed between the leg casts of a patient in a bilateral hip spica is to facilitate the turning of the patient.

T F 10. An artificial drying aid such as an electric cradle should be used to hasten the drying of a cast.

T F 11. If an arm cast has been applied, and the doctor has ordered the patient's pulse to be taken every ten minutes, it should be taken on the unaffected arm.

II. Place the number of the correct answer in the space in the margin.

____ 1. The following principles should be observed when the plaster of Paris bandage is soaked for application.

a. temperature of the water should be 120 degrees Fahrenheit
b. paper should be removed from the bandage
c. the bandage should be removed from the water when the bubbling ceases
d. water should be gently expelled from the bandage with a short twist

1) a, b and c
2) a and d
3) c and d
4) all of above

____ 2. The most satisfactory method for drying a cast is

1) to cover the cast with a heavy blanket
2) to place a light cradle over the cast
3) to apply hot water bottles to the cast
4) to leave the cast exposed to the air

____ 3. If an artificial drying aid is used to dry the cast, it should be placed what distance from the patient

1) ten inches
2) eighteen inches
3) twenty-four inches
4) thirty inches

____ 4. A patient has returned to the ward following the application of a bilateral hip spica cast. The pillows should be arranged on the bed in the following manner

1) three pillows laid lengthwise on the bed
2) one pillow laid lengthwise at the level of the waist and two laid lengthwise below it
3) four pillows laid crosswise on the bed
4) two pillows laid crosswise and two pillows laid lengthwise below them

____ 5. The most desirable agent used in cleansing the cast is

1) soap and water
2) hydrogen peroxide
3) Bon Ami
4) acidolate

____ 6. The most effective agent for cleansing the skin following the removal of a cast is

1) acidolate
2) benzine
3) soap and water
4) hydrogen peroxide

____ 7. The cutting of a cast can be facilitated by applying the following agent to the areas to be cut

1) alcohol
2) acidolate
3) benzine
4) acetic acid

____ 8. When impairment of circulation of the extremity in the cast is observed, the nurse should

1) cut a window in the cast
2) bilvalve the cast
3) call the doctor at once
4) reassure the patient that this condition frequently occurs and will disappear in a few hours

____ 9. When turning a patient in a long leg hip spica cast, the nurse should place her hands on the cast in the following manner to prevent tension on the cast

1) one hand under the hip joint and the other under the knee joint
2) one hand under the body of the cast and the other under the thigh
3) one hand under the hip joint and the other under the heel
4) both hands under the leg

____ 10. Skin abrasions and irritations which may occur around the edges of the cast should be rubbed daily with

1) olive oil
2) alcohol
3) powder
4) hydrogen peroxide

____ 11. Immediately following the removal of a cast in which an extremity has been involved, the limb should

1) rest in a ventral position
2) be exercised to restore function
3) be supported in the position it was in the cast
4) be elevated on pillows to relieve pressure

____ 12. The best method of protecting a cast around the perineum and buttocks immediately following its application is accomplished by

1) slipping narrow strips of oiled silk under the edges surrounding this area
2) petalling the edges of the cast
3) pulling the stockinet under the cast up over the edges and securing it with adhesive
4) shellacing the cast

____ 13. The principles of good body mechanics which the nurse should use in caring for a patient in a cast to prevent injury to the patient as well as herself are as follows

a. stand as close to the bed as possible
b. stand about 12 inches from the bed
c. keep the feet parallel to one another and close together
d. stand with one foot several inches ahead of the other
e. flex the knees and bend at the hip joint
f. keep the knees straight and bend at the waist

1) b, d and e
2) a, c and e
3) b, c and f
4) a, d and e

III. In the following questions, indicate the order of procedure by numbering the statement which should be done first number one (1), the second (2), and so forth, numbering all the statements.

1. If you wish to turn a patient in a hip spica for the first time, you would carry out the procedure in the following manner. Number the steps in the order in which they would be done.

( ) Get the assistance of two more people.
( ) Pull the patient to the side of the bed corresponding to the leg which is in the cast.
( ) Turn the patient toward the side not encased in plaster.
( ) Explain to the patient what is to be done.
( ) Arrange the pillows to receive the cast.

2. A two year old child has had a bilateral hip spica cast applied. Before he goes home, the following procedures must be undertaken. Number the statements in the order in which they should be done.

( ) Thoroughly dry the cast.
( ) Waterproof the cast.
( ) Petal the edges of the cast.
( ) Shellac the cast.
( ) Trim the edges of the cast.

IV. On the lines at the right, write the correct word or words which complete the statements.

1. The plaster of Paris cast is made of _____

2. The functions of a cast are to provide _____

_____

_____

3. In describing the requirements of a cast a) the weight should be _____

b) the fit should be _____

c) the surgaces should be _____

4. The characteristics of a wet cast are _____

_____

_____

_____

5. The characteristics of a dry cast are _____

_____

_____

_____

6. The circulation of the extremity placed in a cast must be watched closely for the danger signals of _____

_____

_____

_____

_____

7. When bathing a patient in a cast, the nurse is careful to prevent water from getting up under the cast because of two possible results to the patient's skin which are _____

_____

8. The elaborate pre-operative skin preparation performed on the orthopedic surgical patient is a means of preventing _____

9. A complication which may arise when a patient has had a window cut in his cast is _____

(This test represents the type of test items which will be included on the final examination in regard to a unit on orthopedic nursing.)

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